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EXAMINER

NGUYEN, THU V

ART UNIT PAPER NUMBER

3661

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

SN

Office Action Summary

Application No.

10/088,024

Applicant(s)

KERNER, BORIS

Examiner

Thu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/14/02 & 7/19/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

The preliminary amendments A and B filed on March 14, 2002 & July 19, 2002 have been entered. By the amendment A, claims 1-8 have been canceled, claims 9-16 have been added and claims 9-16 are now pending in the application. The substitute specification file with the amendment A and the amended specification filed in amendment B has been accepted and has been entered.

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed concept “overlap” in claim 13 line 6. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Claim Objections

2. Claims 10, 14-15 are objected to because of the following informalities:
 - a. In claim 10, lines 2-3, the claimed “when an ... route section, reaches ... direction” should be corrected to “when an ... route section reaches ... direction”
 - b. In claim 14, line 2, the claimed “at lest” should be corrected to “at least”.
 - c. In claim 15, line 2, the claimed “dense traffic currently ..” should be corrected to ‘dense traffic is currently ..’.

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Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10-13, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- a. In claim 10, lines 5-6, the claimed “representative of included” is ambiguous and is not understood. It is not clear if the overarching pattern represents the effective bottlenecks of dense traffic, or if the overarching pattern is included in the effective bottlenecks of dense traffic.
- b. In claim 11, lines 2-4, the claimed “pattern assigned to an effective bottleneck or as overarching pattern common, to a plurality of effective bottlenecks, of dense traffic” is ambiguous and is not understandable. Does the claimed “pattern assigned to an effective bottleneck or as overarching” means “pattern assigned to as an effective bottleneck or as overarching pattern”? What is the meaning of the word “common” (common to what phenomena?)? the phrase “to a plurality of effective bottlenecks” does not seem to be a complete sentence and it is not clear how the phrase is related to the surrounding phrases.
- c. In claim 12, line 2; claim 13, line 1, the pronoun “it” is ambiguous, what does the “it” refer to?

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- d. In claim 12, line 3, the claim “whether” is ambiguous. It is not clear if the claimed limitation means “determining whether ...”.
- e. In claim 12, last line; claim 13, line 8, the alternative “and/or” is ambiguous. It is not clear if the limitation should be interpreted as “and” or as “or”.
- f. In claim 13, lines 3-5, the claimed “in what temporal ... arise” is ambiguous. It is not clear what pattern should arise?
- g. In claim 13, lines 5-6, the claimed “develop ... pattern” is ambiguous. It is not clear what object should be developed.
- h. In claim 13, line 6, the claimed “whether overlaps of such regions” is ambiguous. What are the “such regions”?
- i. In claim 16, line 7, the claimed “which pattern” is ambiguous. It is not clear if the claimed limitation implies the “pattern profiles” or if the limitation implies the “selected best-fitting pattern profile”.
- j. Due to numerous ambiguities through out the claims, applicant is requested to review and revise all the claims to improve clarity to the claims.

Double Patenting

- 5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible

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harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 9-16 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 6,522,970 (patent '970 hereinafter). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 9 teaches classifying the traffic jam into a plurality of categorizations as taught in claim 1 of patent '970. Patent '970 does not explicitly teach the overarching pattern of claims 10-11, 13-15. However, claim 2 of patent '970 teaches determining whether the "moving widespread congestion" has move upstream from the congestion region. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to name the trend of moving upstream of the "moving widespread congestion" of claim 2

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as the overarching pattern, since categorize a particular phenomena to the particular category as desired requires only routine skill in the art.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 9-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerner et al (“Experimental properties of complexity in traffic flow”, May 1996) (enclosed IDS) in view of Satoshi (JP 10-197270).

As per claim 9, Kerner teaches a method for monitoring a traffic state. The method comprising: recording measured traffic data including traffic intensity and average vehicle speed (page 1, column 1, last 4 lines); based on the recorded information, classifying the traffic state into free traffic, and synchronizing traffic (page 2, first column, lines 1-9); classifying the traffic state upstream of the bottleneck as conforming to a pattern of dense traffic when an edge (the “front” in the cited reference) is detected between the downstream free traffic and upstream synchronized traffic (page 3, first column, last paragraph; page 3, second column, lines 1-18). Kerner does not teach taking into account an associated profile of the traffic parameter to classify

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the state phase determination. However, Satoshi teaches taking into account an associated profile of the traffic parameter to classify the state phase determination (para 0035). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine the state phase determination of Kerner based on a stored profile suggested by Satoshi in order to facilitate categorizing the traffic state of a road based on the data specified in the profile.

As per claim 10-11, 13, Kerner does not explicitly teach an overarching pattern which occurs when the dense traffic which initially occurs at an effective bottleneck in a route section reaches a next preceding effective bottleneck in an upstream direction. However, Kerner teaches a random emergent of a nonstationary jams and a nonstationary growth of the amplitude or width of the jams (page 2, second column, last paragraph; page 3, first column lines 1-9). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to name the nonstationary jams of Kerner as the over arching pattern, since naming to facilitate adding a category of a jam condition to a jamming profile as needed by the user required only routine skill in the art.

As per claim 12, 16, Kerner teaches using influx information in determining jam condition (page 1, first column, last four lines), further, Kerner teaches the synchronized traffic (page 2, first column, last paragraph), the pinch region (page 3, second column, lines 43-51), and

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a region of moving widespread congestion (page 3, second column, lines 25-39) that are time dependent and location dependent (page 4, first column).

9. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerner et al (“Experimental properties of complexity in traffic flow”, May 1996) (enclosed IDS) in view of Satoshi (JP 10-197270) and further in view of Matsui et al (“Definition of Congestion Based on Drivers’ Consciousness”, 1994).

As per claim 14-15, refer to claim 10 above. Further, Matsui teaches including temporal aspect into consideration in determine traffic condition for a future point in time (section IV, page 342-344).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ho et al “traffic Flow Modeling and Control Using Artificial Neural Networks” teaches dividing a lane to multiple sections and determining traffic condition of the sections using traffic flow models (section “Simulated Example” pages 22-23).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

or faxed to:

(703) 305-7687, (for formal communications intended for entry)

Or:

(703) 305-7687 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park V, 2451 Crystal Drive,
Arlington. VA., Seventh Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for this Group is (703)305-7687 .

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-1111.



Thu Nguyen

September 17, 2003